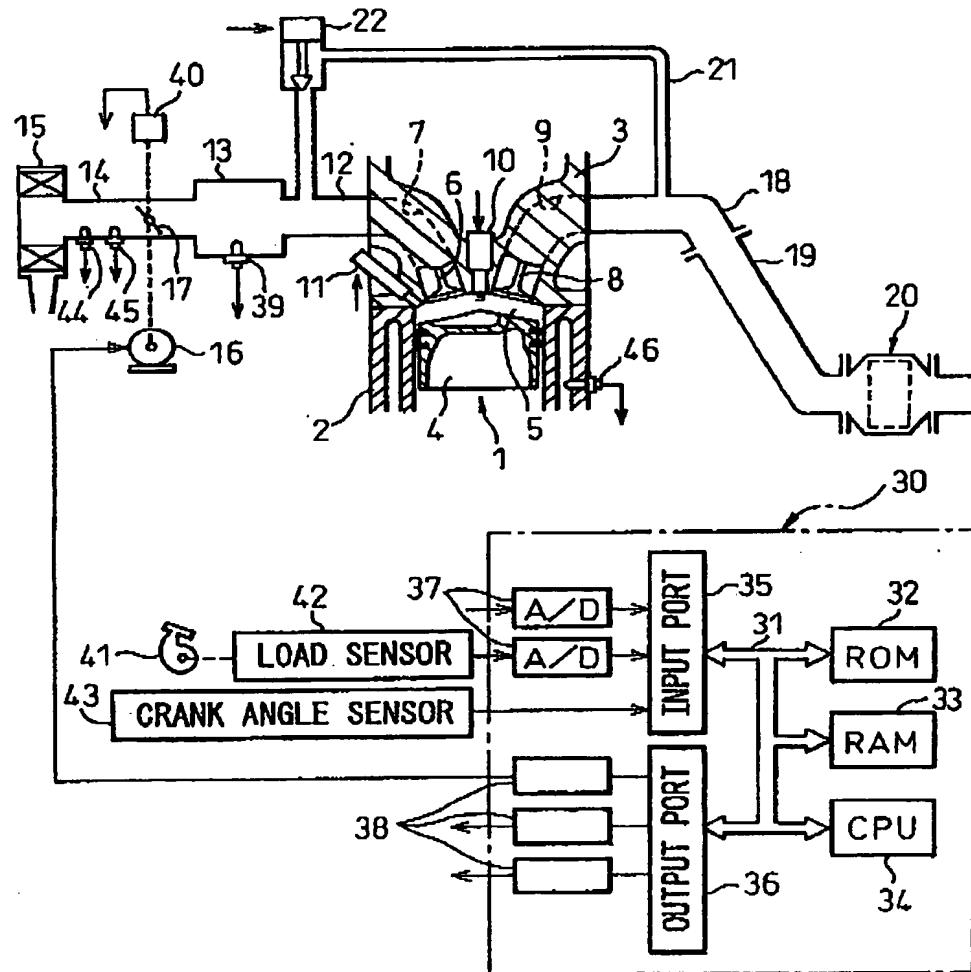


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Fig. 1



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Fig.2A

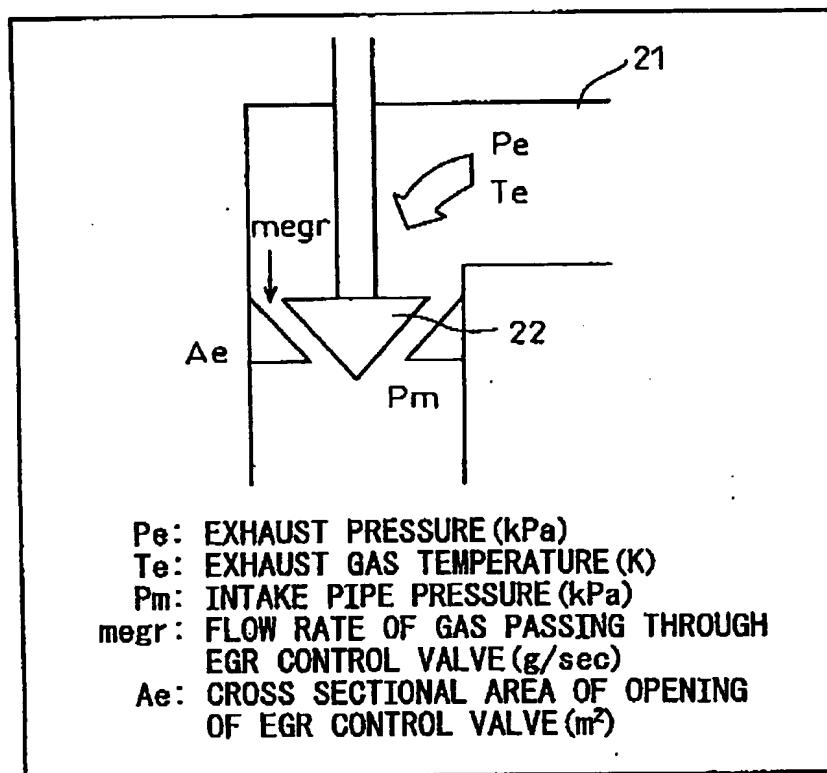
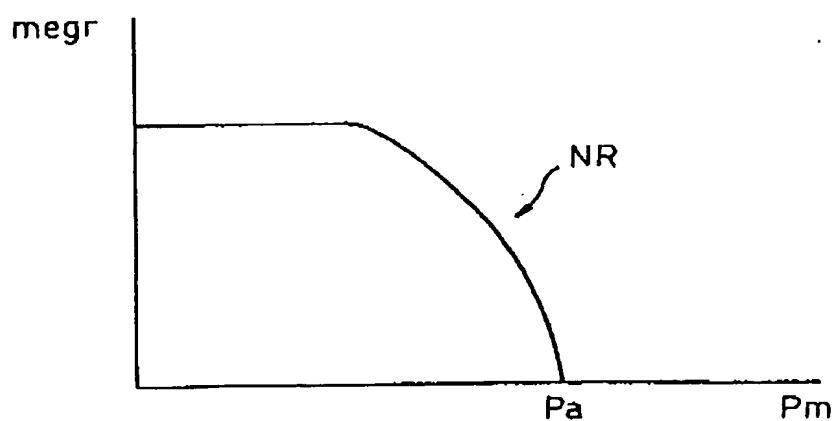


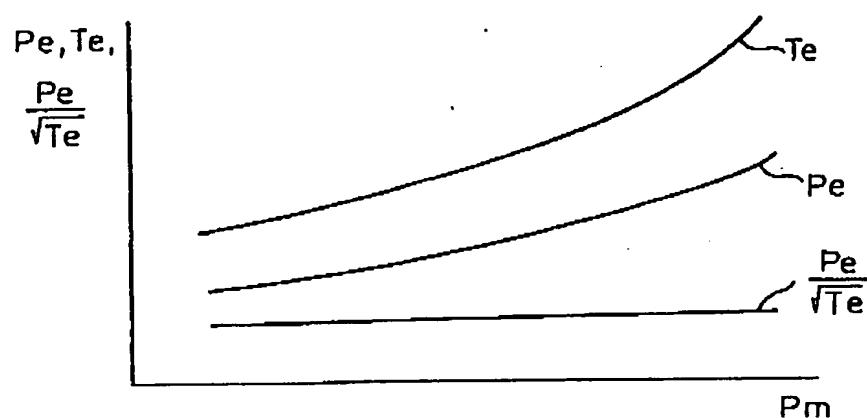
Fig.2B



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Fig. 3



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Fig.4A

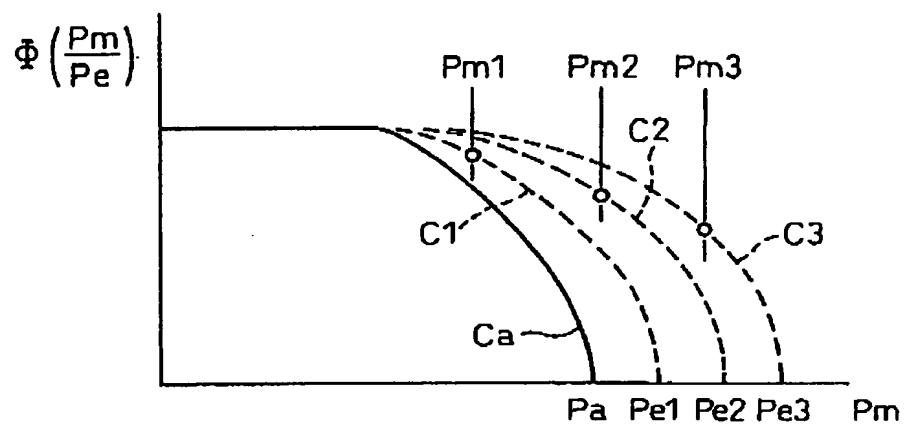
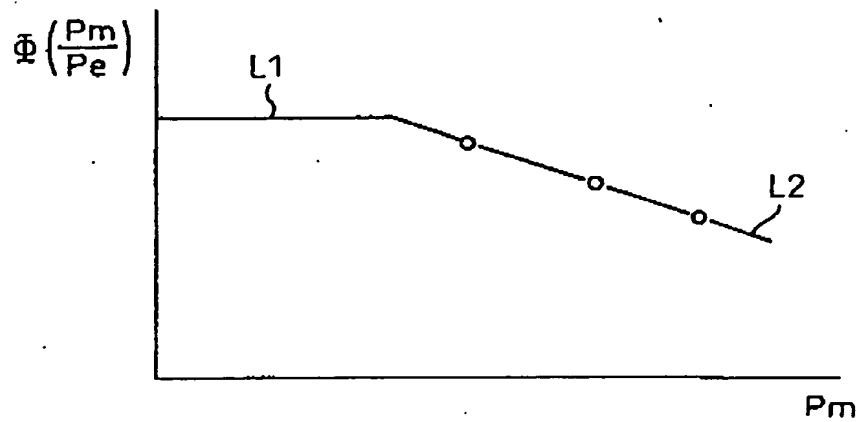


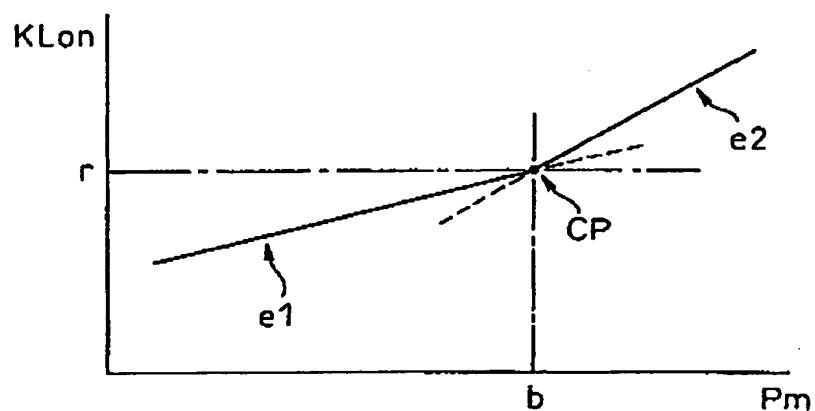
Fig.4B



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Fig.5



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Fig.6A

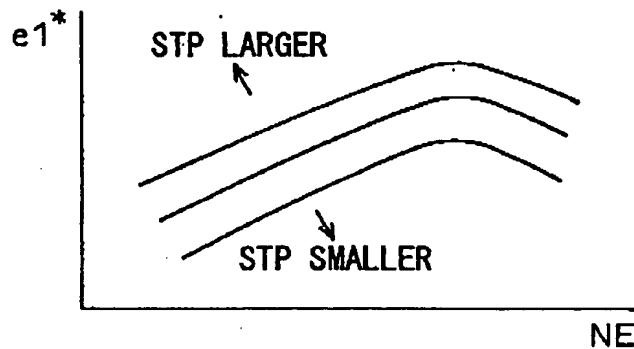


Fig.6B

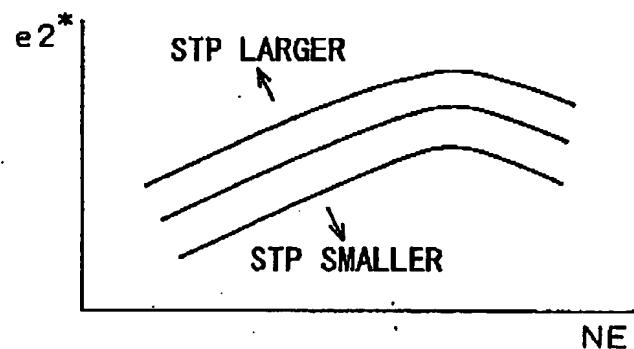


Fig.6C

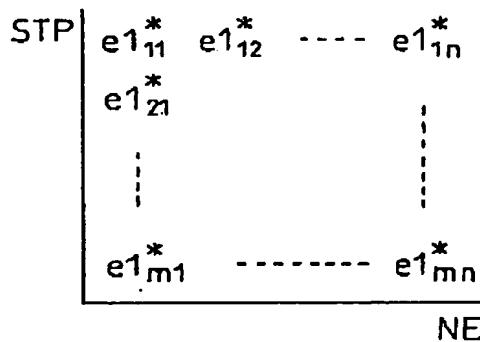
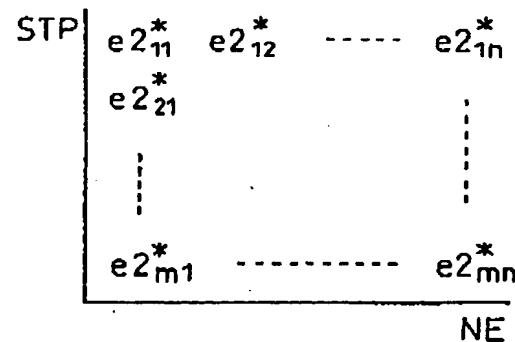


Fig.6D



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Fig.7

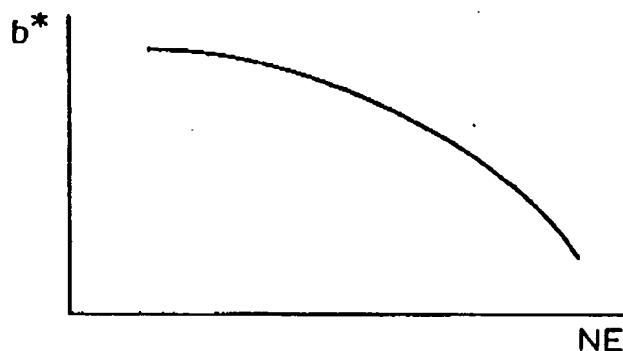


Fig.8A

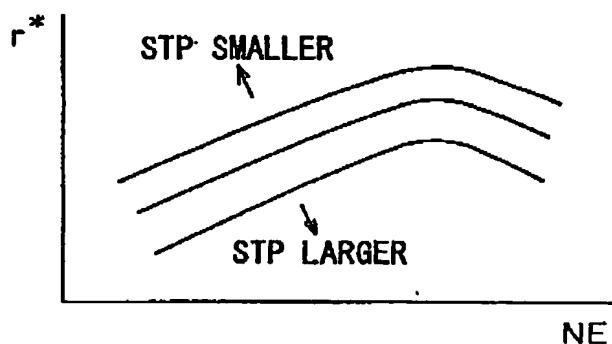
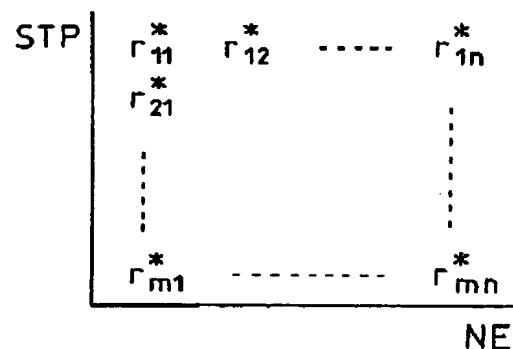


Fig.8B



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Fig.9

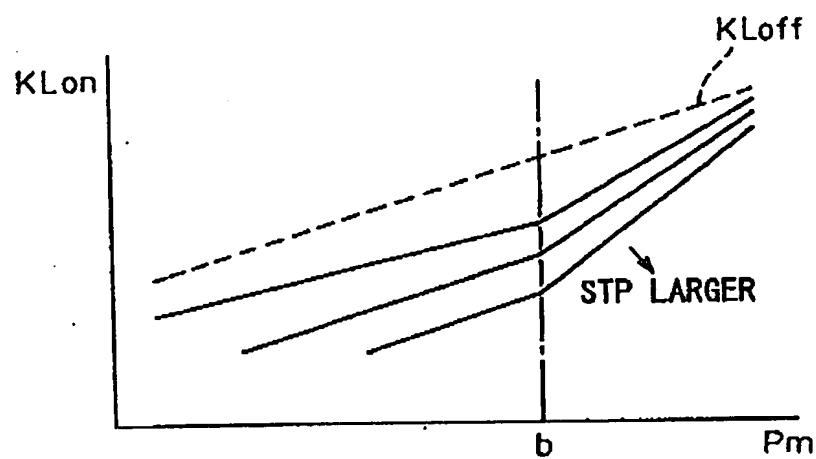
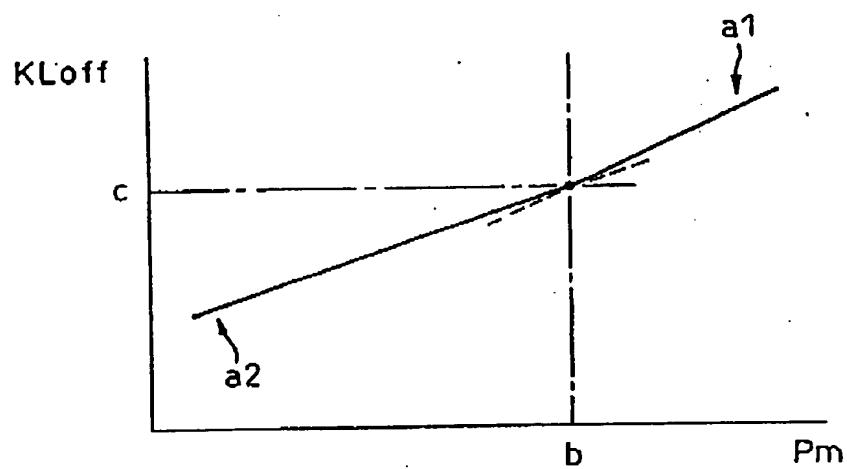


Fig.10



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Fig.11A

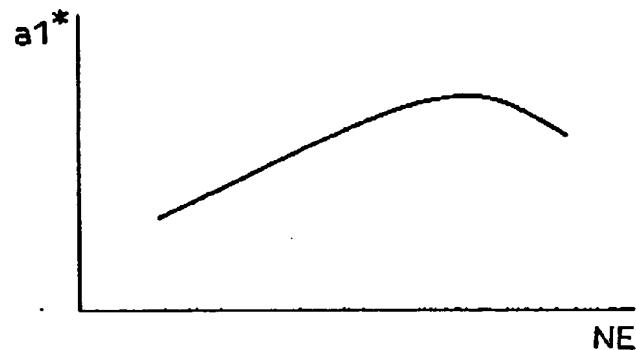


Fig.11B

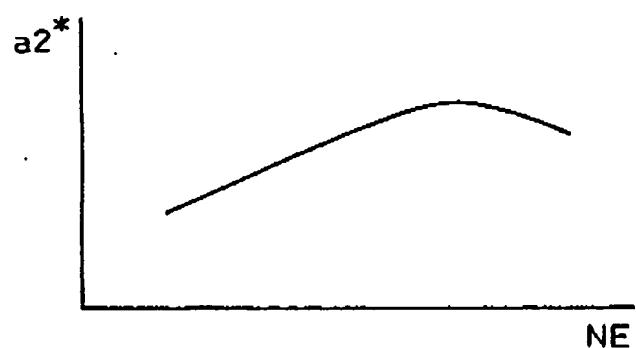
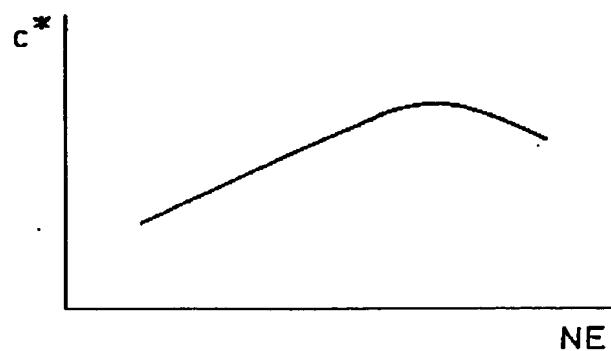


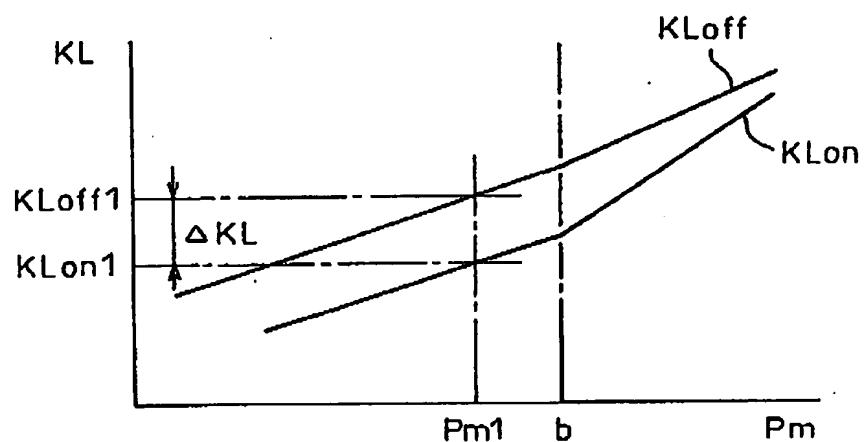
Fig.12



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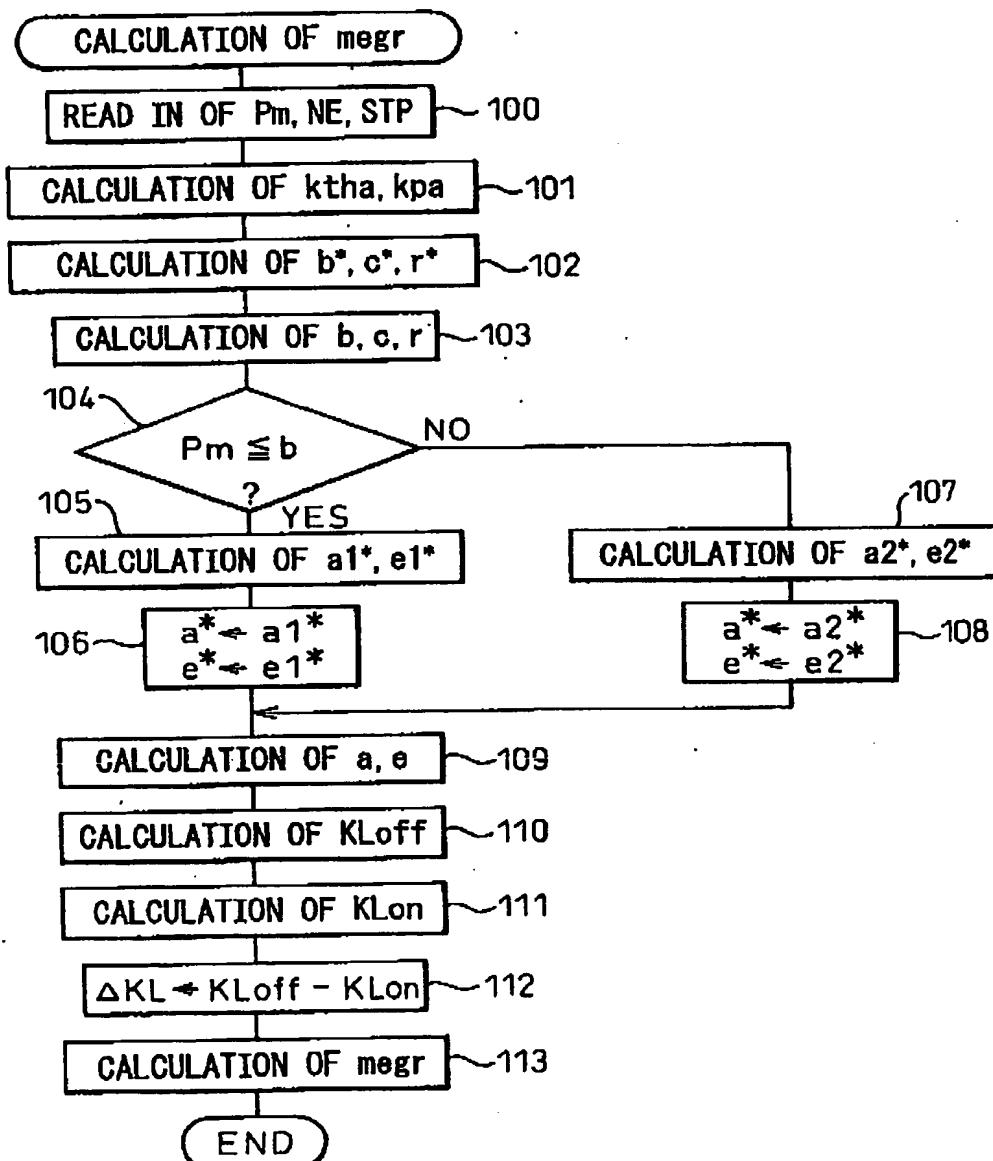
Fig.13



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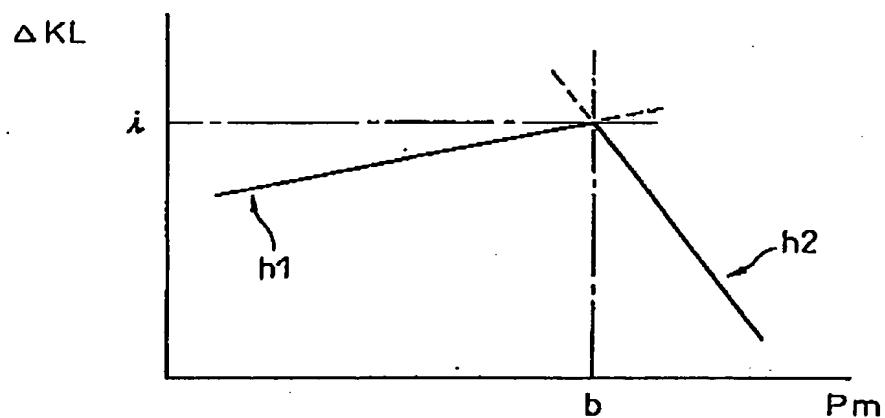
Fig.14



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Fig.15



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Fig.16A

| STP | $h1_{11}^*$ | $h1_{12}^*$ | --- | $h1_{1n}^*$ |
|-----|-------------|-------------|-----|-------------|
| | $h1_{21}^*$ | | | |
| | | | | |
| | $h1_{m1}^*$ | ----- | | $h1_{mn}^*$ |

NE

Fig.16B

| STP | $h2_{11}^*$ | $h2_{12}^*$ | --- | $h2_{1n}^*$ |
|-----|-------------|-------------|-----|-------------|
| | $h2_{21}^*$ | | | |
| | | | | |
| | $h2_{m1}^*$ | ----- | | $h2_{mn}^*$ |

NE

Fig.16C

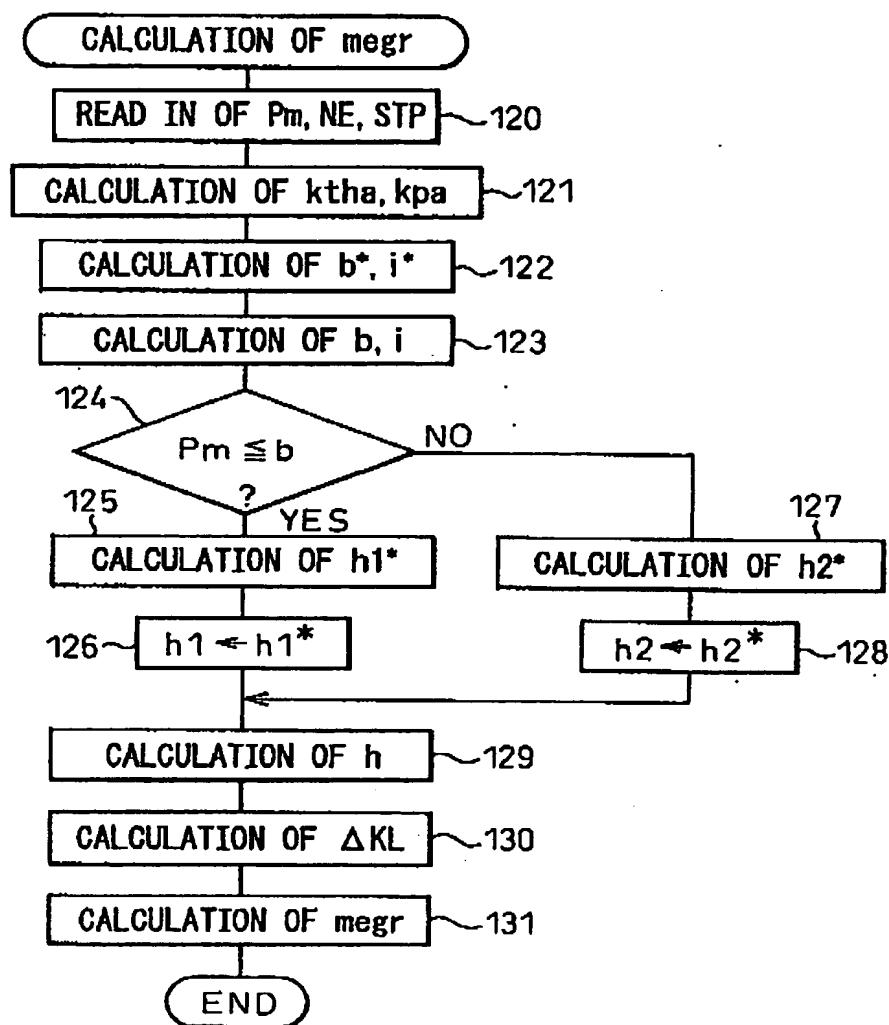
| STP | i_{11}^* | i_{12}^* | --- | i_{1n}^* |
|-----|------------|------------|-----|------------|
| | i_{21}^* | | | |
| | | | | |
| | i_{m1}^* | ----- | | i_{mn}^* |

NE

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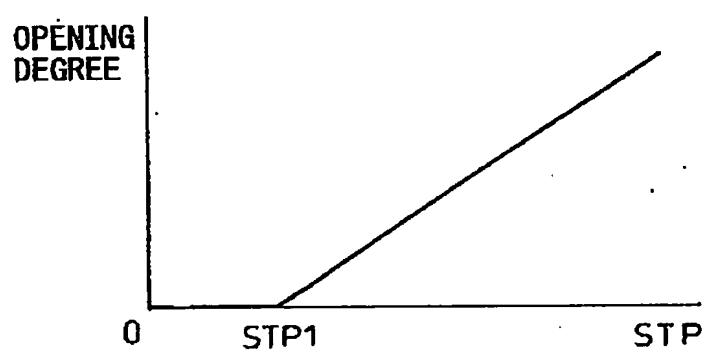
Fig.17



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Fig.18



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Fig.19A

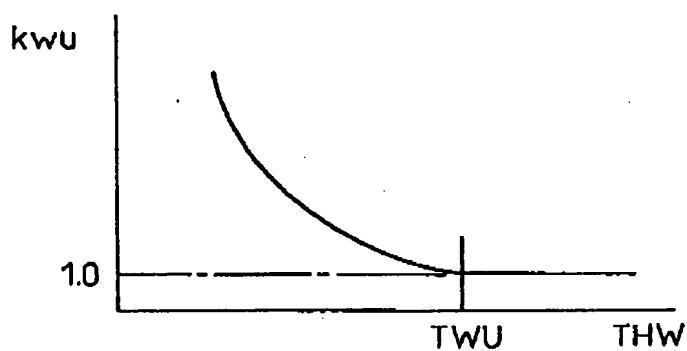


Fig.19B

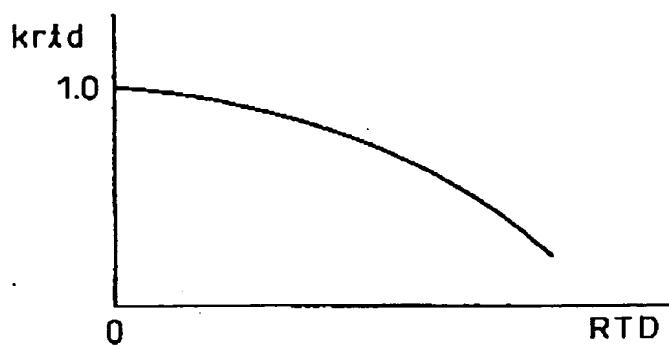
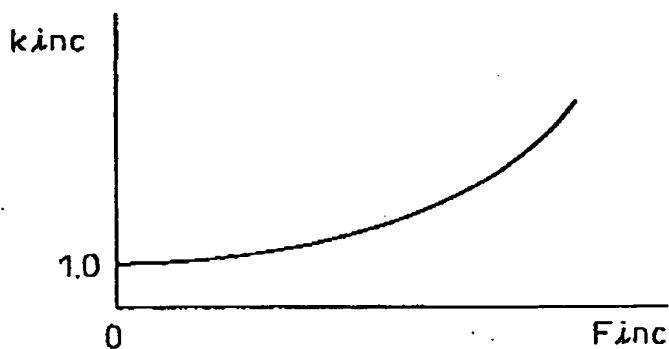


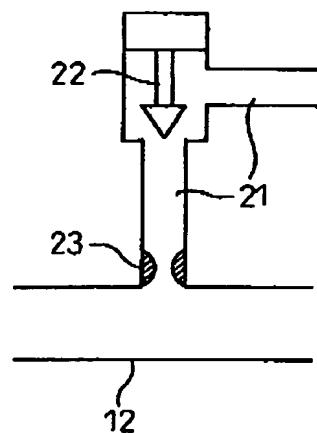
Fig.19C



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Fig.20



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Fig.21A

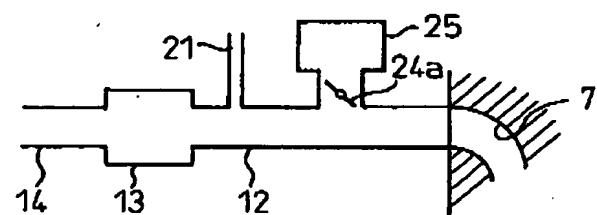


Fig.21B

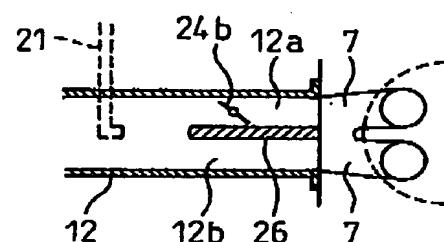
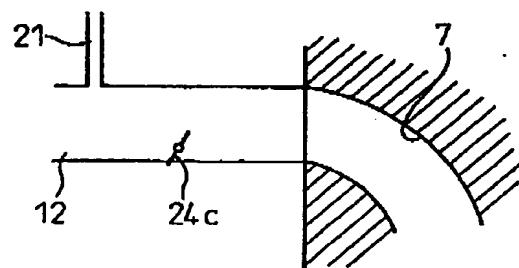


Fig.21C



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Fig.22A

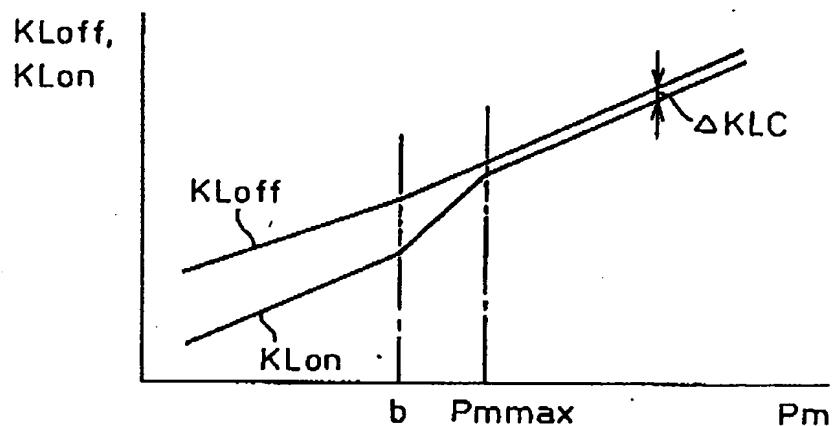
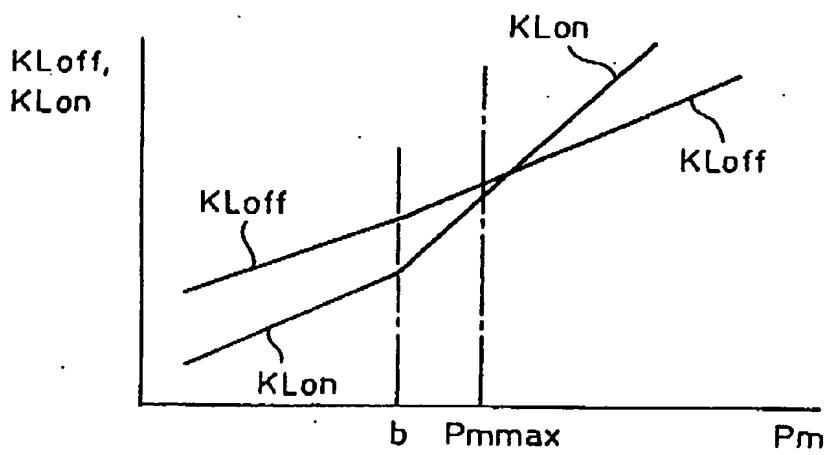


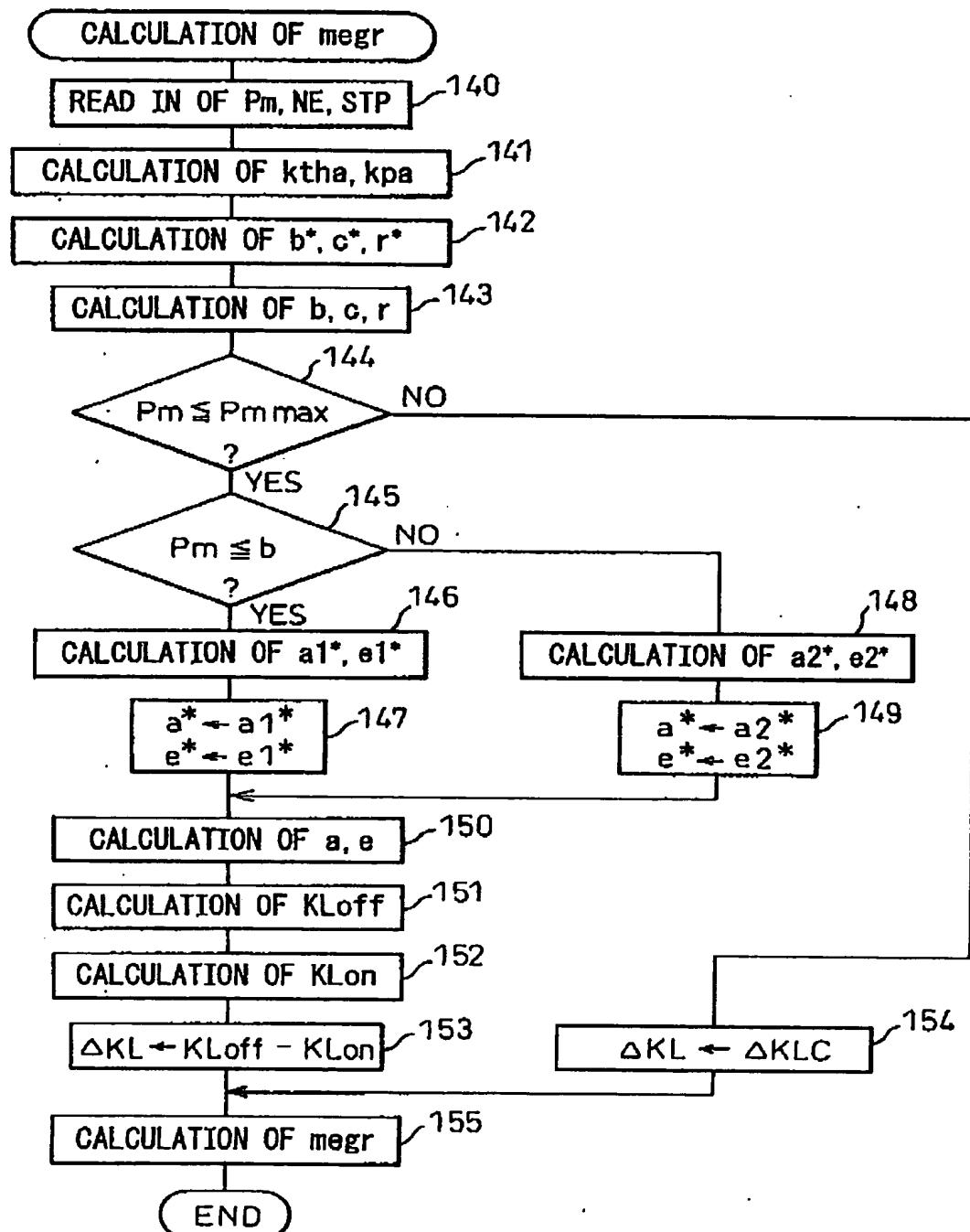
Fig.22B



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Fig. 23



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LIST OF REFERENCE NUMERALS

- 1 ... Engine body
- 12 ... Intake branch
- 17 ... Throttle valve
- 5 18 ... Exhaust manifold
- 21 ... EGR supply pipe
- 22 ... EGR control valve